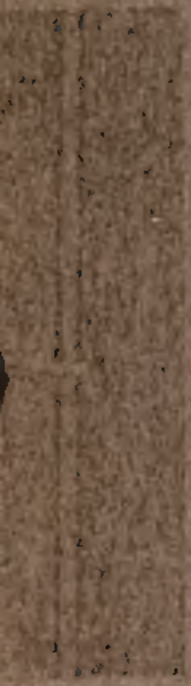
ANNUAL REPORT

Department of Public Health.

CITY OF NEWARK,

NEW JERSEY.

1903.


INDEX.

ANNUAL REPORT

Department of Public Health

COMPLIMENTS OF

DAVID D. CHANDLER,

HEALTH OFFICER.

1903

BAKER PRINTING COMPANY,
251 Market Street,
Newark, N. J.

1904

ANNUAL REPORT

Department of Public Health

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MEMBERS OF THE BOARD OF HEALTH
OF NEWARK, N. J.

DR. H C H HEROLD, PRESIDENT	75 Congress Street
MR. MATTHEW T. GAY	47 Lincoln Avenue
DR. C. M ZEH	15 Central Avenue
DR. D L WALLACE	202 Clinton Avenue
DR. F. W BECKER	478 Clinton Avenue
DR W S. DISBROW	151 Orchard Street
MR JOSHUA BRIERLEY	99 Lincoln Avenue
DR J T. WRIGHTSON	12 Central Avenue
MR. A. GEDDES	497 Mt. Prospect Avenue
MR. C. P ZIMMERMAN	889 South 15th Street

Health Officer.

MR DAVID D. CHANDLER, 74 North Seventh Street

STANDING COMMITTEES OF THE BOARD OF HEALTH

FOR THE YEAR 1903.

Sanitation.

DR. DISBROW, DR BECKER, DR ZEH,
MR. BRIERLEY, MR. ZIMMERMAN.

Finance

DR. ZEH, MR. GAY, MR. GEDDES.

Laws and Ordinances.

MR BRIERLEY, MR. GEDDES MR ZIMMERMAN

Rules

MR ZIMMERMAN, MR GAY MR BRIERLEY.

Appointments.

MR GAY DR WALLACE, DR WRIGHTSON.

Supplies.

MR GEDDE DR DISBROW, DR BECKER

City Hospital.

DR WALLACE MR GAY DR. BECKER,
DR DISBROW, DR WRIGHTSON

Training School.

DR BECKER DR ZEH DR DISBROW,
DR. WALLACE, DR WRIGHTSON

EMPLOYEES OF THE BOARD OF HEALTH.

Office Division.

JOHN J. GREENE — *Clerk Bureau Contagious Diseases*
101 Wilsey Street.

EUGENE W. BELLAR — *Clerk Sanitary Division*
45 Congress Street.

WILLIAM H. YOUNG — *Clerk Sanitary Division*
62 Hunterdon Street

MISS MARIE PERIER — *Stenographer to Health Officer*
372 High Street

ELBERT S BALL — *Office Boy*
19 Nichols Street

EDWARD E. WORL, M D — *Supt. Bureau Contagious Diseases*
271 High Street.

HERBERT B BALDWIN — *Chemist*
911 Franklin Street

GEORGE C SONN — *Meteorologist*
285 Belleville Avenue

Bacteriological Division.

DR. R. N CONNOLLY — *Bacteriologist*
City Hospital Building

DR. THOMAS RIPLEY — *Asst Bacteriologist*
137 Orchard Street

ERNEST SKILLMAN — *Laboratory Assistant*
106 Wickliffe Street

HERMAN VOLK — *Culture Collector*
108 McWhorter Street

City Dispensary.

WILLIAM A SMITH — *Apothecary*
21 Court Street

HENRY A OLTMANN — *Assistant Apothecary*
191 South Ninth Street

WILLIAM M. GOULD — *Dentist*
89 Halsey Street

District Physicians.

WM H SCHOPPER — 43 Read Street
J SAMUEL STAGE — [illegible] Jefferson Street
HENRY W NOLTE — [illegible] Mulberry Street
MATTHEW T. GAFFNEY — 211 Pine Street
JAS A HOFFMAN — [illegible] Waverly Avenue
SAMUEL H BALDWIN — 479 Clinton Avenue
CHARLES H BRUCKNER — 118 Newton Street
WILLIAM GAUCH — [illegible] High Street
R W CHAPMAN — 346 Bloomfield Avenue
HUGH M HART — 16 Gouverneur Street
C B GRIFFITHS — 145 Monmouth Street

Sanitary Division.—Meat Inspectors.

WERNER RUNGE — 130 Union Street
DANIEL KUHN — 47 Providence Street

Plumbing Inspectors.

JOHN B SULLIVAN — 204 Second Street
JOHN A. WHELAN — 42 Second Street
ED P. COULSTON — 351 Walnut Street

Milk Inspector

OTTO B SCHALK — 407 Bergen Street

Sanitary Inspectors.

WM H LYLE — 227 South Sixth Street
LOUIS H BRIDGEM — 59 Court Street
ANDREW J BRADY — 17 Howard Street
JOHN WRIGHT — 70 Arlington Street
MORRIS SEIDL — 411 South Eighth Street
[illegible] — 182 Summit Street
CHARLES H BURK — 125 Union Street
BERNARD CAHILL — 311 Warren Street
HUBERT O'ROURKE — 19 Avon Place

MICHAEL HELMSTAEDTER. ....335 Mulberry Street
ANTONIO PANZERA . 44 Jefferson Street
JOHN F. NEARY .. . . 72 New Street
SAMUEL SHARWELL . ... 124 Second Street
WILLIAM S WEBB.... ... . 56 Court Street
PATRICK J KEATING .... .421 New Street
GEO. A VAN HOUTEN. ..... 24 Governor Street

Disinfecting Corps.

SAMUEL KNOTT, *Chief*.. . . ..279 Plane Street
HIRAM R. STEWART ....68 Wright Street
LEONARD V GILLEN... .... 82 East Park Street
THOMAS F NEWTON..... . ...147 Fourth Avenue
RICHARD J. CORBLEY 143 Somerset Street
REGINALD RAYMOND 598½ Bergen Street
THOMAS MULLIGAN .149 Pennsylvania Avenue

WILLIAM BLANCHARD . ...*Orderly at Isolation Hospital*
Sherman Avenue and Concord Street.

GEORGE FRANCISCO ... ... *Janitor*
177 Pennsylvania Avenue

DISTRICT PHYSICIANS, 1903.

1st DISTRICT—DR. W SCHOPFER District Lines: Polk Street, Lafayette Street, Hamburg Place, Thomas Street and Passaic River

2d DISTRICT DR J S. STAGE. District Lines: Polk Street, Lafayette Street, Hamburg Place, Thomas Street, Newark Bay, City Line, Avenue "D," Pacific Street, Clifford Street, Jefferson Street and Passaic River

3rd DISTRICT DR. H W. NOLTE.—District Lines: Jefferson Street, Clifford Street, Pacific Street, Tichenor Street, Broad Street Market Street, Railroad Place and Passaic River

4th DISTRICT DR. M T GAFFNEY.—District Lines: Railroad Place, Market Street, Broad Street, Lincoln Park, Spruce Street, High Street, Central Avenue, Fulton Street and Passaic River

5th DISTRICT—DR J A HOFFMAN.—District Lines: High Street, Warren Street, Newark Street, Richmond Street, Rankin Street, Charlton Street, Spruce Street.

6th DISTRICT—DR S H BALDWIN.—District Lines Charlton Street, Springfield Avenue, Fifteenth Avenue, City Line, Lyons Avenue, Clinton Place, Hawthorne Avenue Ridgewood Avenue, Livingston Street, Eighteenth Avenue and Spruce Street.

7th DISTRICT—DR C H BRUCKNER.—District Lines: Fifteenth Avenue, Springfield Avenue, Rankin Street, Richmond Street, Newark Street Warren Street, Central Avenue and City Line

8th DISTRICT DR. W. GAUCH.—District Lines: High Street, Eighth Avenue, Clifton Avenue, Norfolk Street, Central Avenue, Hudson Street and Warren Street

9th DISTRICT—DR R. W CHAPMAN. District Lines Central Avenue, Warren Street, Hudson Street, Central Avenue, Norfolk Street, Clifton Avenue Bloomfield Avenue and City Line

10th DISTRICT—DR H M HART District Lines: Fulton Street Central Avenue, High Street, Eighth Avenue, Clifton Avenue, Bloomfield Avenue, City Line and Passaic River

11th DISTRICT DR. C B GRIFFITHS. District Lines: Avenue "D," Pacific Street, Tichenor Street, Lincoln Park, Spruce Street, Eighteenth Avenue, Livingston Street Ridgewood Avenue and City Line

ANTITOXIN AND CULTURE STATIONS.

Established by the Board of Health for the Collection of Cultures and Distribution of Antitoxin.

David Bramley	110 Union Street	1391A	N. Y. & N. J. Tel. Co
F. W Rodeman	77 Ferry Street	2009B	"
O Von Gehren	200 Ferry Street	2092A	Bowery
L. Griessenbeck	28 Bowery	2080	Bowery
C. Holzhauer	787 Broad Street	1312	"
G R. Petty	Prudential Building	864	"
E. F Fielding	925 Broad Street	914	"
George Linnett & Bro	77 Lincoln Park	1345A	"
L. D Greenlief	579 Broad Street	1568	"
H S Jackson	482 Broad Street	1536B	
Wm R Scudder	95 Belleville Avenue	1579	
A Schurr	289 Belleville Avenue	1506	"
Sam'l Epstein	195 Orange Street	1380	"
C P Moll	166 Central Avenue	1319	"
E M Avery	291 Central Avenue	1504	"
Lewis L Staehle	169 South Orange Avenue	1539	"
D S Belding	315 South Orange Avenue	1487A	
Emil Reichie	362 Springfield Avenue	1534	"
R Staebler	166 Springfield Avenue	1447	"
W E Moore	503 Clinton Avenue	1332F	"
F I Crissey	320 Bank Street	1391	"
J B Foster	401 Seventh Avenue	2051	Roseville
Herman Weller	190 Washington Avenue	1349F	"
F Feindt	Belmont Avenue and Kinney Street	1304I	"
Chas Menk	106 Market Street	291	"

CLINICS AT CITY DISPENSARY.

MEDICAL.

Male and Female.

Every day, excepting Sundays, at 9 A M District Physicians in attendance.

Skin.

Tuesdays and Fridays at 9.30 A M Dr. H J F. WALLHAUSER, Chief, and Dr. LOUIS KOCH and Dr S B W LEYENBERGER, Assistants

Gynaecological.

Tuesdays and Fridays at 3 P. M Dr. E Z HAWKES, Chief, and Dr W GAUCH and Dr ELIZABETH VAN DUYNE, Assistants

Children's.

Mondays Wednesdays and Fridays at 10 A M.—Dr FLOY MCEWEN, Chief, and Dr FRANK H PINNEO and Dr A. BIANCHI, Assistants

Genito-Urinary Clinic.

Tuesdays and Saturdays at 10 A M—Dr J W. WILSON, Chief and Dr B H VOELBEL, Assistant

Surgical.

Mondays, Tuesdays, Wednesdays, Thursdays and Fridays at 12 M—Dr W BUERMAN, Chief, and Dr. L WEISS and Dr J A CUNNINGHAM, Assistants

Dentist.

Mondays, Wednesdays and Fridays at 1 P M—Dr W M GOULD.

Open on Sundays and holidays from 9 to 12 for prescriptions

Throat and Nose.

Mondays and Thursdays at 3 P M Dr HENRY A TOWLE, Chief

ANNUAL REPORT

OF THE

HEALTH OFFICER

FOR THE YEAR 1903.

ANNUAL REPORT

OF THE

HEALTH OFFICER

FOR THE YEAR, 1903.

To the Honorable the Board of Health of the City of Newark, New Jersey

GENTLEMEN—I have the honor to herewith present to you the Annual Report of the Board of Health for the year ending December 31, 1903:

SANITARY DIVISION.

The city is divided into fifteen districts patroled by 15 Inspectors appointed by the Board. Each Inspector is held responsible for the sanitary condition of his district.

CONSOLIDATED REPORTS OF NUISANCES FOR THE YEAR 1903

Inspections from complaint book	2,449
Inspections from complaint book, verified	2,021
Inspections from complaint book, no cause	428
Number of original inspections made	7,828
Total number of inspections made	10,287
Number of written notices served	2,006
Total number of abatements	2,113
Number of verbal notices	4,337
Number of abatements from same	3,623
Number of hours in court	181

DETAILED REPORT

Wells inspected	28
Wells closed	4
Sewer connections ordered	405
Sewer drains inspected	1 353
Cesspools inspected	171
Alleys inspected	330
Alleys filthy	53
Alleys need repairing	50
Streets need cleaning	138
Areas dirty	455
Cellars dirty	973
Ashes accumulation	694
Garbage accumulation	452
Drainage surface	68
Lots filthy	183
Lots stagnant water	159
Manure accumulation	547
Defective water pipes	209
Houses filthy	28
Houses unfit for habitation	4
Slaughter houses inspected	38
Houses unprovided with privy vaults or water-closets	9
Houses with no water supply	104
Houses with roofs leaking	96
Hydrants defective	40
Privy houses filthy	171
Privy vaults full	439
Cesspools full	223
Privy houses dilapidated	28
Privy vaults ordered reconstructed	17
Privy vaults ordered out	439
Yards inspected	9 282
Yards filthy	1 254
Plumbing defective	93
Water closets defective	57
Stables inspected	664
Total number of reinspections	6 220
Total number of nuisances found	7 339
Number of privy vaults and cesspools cleaned	232
Permits granted to clean privy vaults and cesspools	232
Number of cow stables inspected	143
Number of animals licensed	1 057

Number of suit cases instituted for violation of the Sanitary Code	221
Number of cases in which penalties were imposed	12
Number of cases discontinued upon payment of costs of Court —nuisances abated	144
Number of cases discontinued change in ownership	7
Number of cases discontinued prior to summons being served, work having been done	58

PLUMBING DIVISION.

This division is under the supervision of three practical plumbers and the work performed by them has been satisfactorily demonstrated.

The following is a summary of the work of this division for the year 1903:

Plans approved	1,372
Plans rejected	160
Water tests made	1,219
Plumbing inspections made	3,476
Final plumbing inspections made	707
Smoke tests made	108
Peppermint tests made	27
Sewer permits granted	1,092
Cesspool permits granted	52
Privy vault permits granted	24
Relay sewer permits granted	80
Violations served	13
Violations complied with	8
Hours in court	43

MEAT AND LIVE STOCK DIVISION.

This division is under the supervision of two Inspectors—one a veterinarian, whose duty it is to look after the slaughter houses and wholesale meat markets, the other an experienced butcher, whose duty it is to visit all the public and private meat and vegetable markets.

The following is a summary of the work performed during the year 1903:

INSPECTED.

Cattle	21 167
Calves	2333
Sheep	25,301
Hogs	4703
Total	74 526

CONDEMNED

Calves	26
Carcasses of beef	1

BUTCHER SHOPS VISITED.

Number of visits	7,093
Number of carcasses of beef inspected	23 120
Number of lambs and sheep	86,74,
Number [illegible]	11,923
Number of swine	1284

CONDEMNED

Calves, (carcasses)	47
Veal	750 lbs
Lamb	17 1 s
Fish	250 11
Cauliflower, (carload)	1

Four complaints were attended to and adjusted, and Centre Market has been visited daily

MILK INSPECTOR'S REPORT.

The report of the Milk Inspector for the year 1903 is as follows

Number of milk wagons halted for inspection	2602
Number of cans of milk inspected on same	5043
Number of lactometer tests	2 25
Number of stores visited	1 223
Number of cans of milk inspected at same	1 051
Number of lactometer tests	522
Number of samples found suspicious and sent to Chemist for analysis	404

REPORT OF DISINFECTING CORPS—1903.

This division consists of a Chief and seven Inspectors detailed for that purpose.

The work of this division is all that can be desired under the existing conditions and the following is a summary of the work performed during the year 1903:

Diphtheria, including membranous croup (placarded)	1,153
Scarlet fever (placarded)	781
Typhoid fever (not placarded)	308
Small pox (not placarded)	25
Total	2,207

DISINFECTIONS.

Diphtheria	1,062
Scarlet Fever	505
Phthisis	468
Small Pox	20
Special	172
Total number of houses	2,317
Total number of rooms	6,761
Number of cubic feet of air space	6,761,000
Number of control tests used	1,380
Number of visits to quarantined houses	3,224
Number of nuisances found	249
Number of contagious funerals supervised	84

THE CITY DISPENSARY AND OUT-DOOR POOR DIVISION.

The following is a detailed statement of the services rendered by the different clinics, together with the treatment of what is known as the Out door Poor Contingent:

PERSONS TREATED AT THE FOLLOWING CLINICS

Medical	11,422
Surgical	2,114
Diseases of Skin	1,329
Diseases of Children	855
Diseases of Women	331
Diseases of Genito-Urinary Organs	1,166

Diseases of Throat	445
Number of Vaccinations	4,671
Number of teeth extracted ..	1,259
Number of clinic prescriptions	30,643

NUMBER OF DISTRICT PRESCRIPTIONS DISPENSED AS FOLLOWS

1st District .	704
2nd District	473
3rd District	1,171
4th District	693
5th District ..	610
6th District .	290
7th District	438
8th District	735
9th District	377
10th District	629
11th District .	206
Total number of District Prescriptions	6,385

RECAPITULATION

Total number of patients treated	43,577
Total number of prescriptions dispensed	37,028

SUMMARY OF SERVICES RENDERED BY DISTRICT PHYSICIANS.

	1st Dist.—Dr. W. H. Schopfer.	2d Dist.—Dr. J. S Stage.	31 Dist.—Dr H. Nolte.	4th Dist.—Dr. M. T. Gaffney.	5th Dist.—Dr. J. A Hoffman.	6th Dist.—Dr S. H. Baldwin.	7th Dist.—Dr. C. H. Bruckner.	8th Dist.—Dr. W Gauch.	9th Dist.- Dr. R W. Chapman.	10th Dist. Dr. H. M. Hart.	11th Dist. Dr. C. B. Griffiths.
Actual number of houses visited	303	315	368	846	255	258	220	400	265	390	192
Actual number of families visited	305	315	368	877	281	265	219	414	293	422	203
Number of sick prescribed for	321	318	378	851	318	289	230	454	311	458	200
Number of sick found treated by other physicians	2	4	3	33	11	3	33	0	5	0	0
Total number of re visits made	904	634	1293	1165	857	543	636	694	400	720	506
Number of patients sent to hospital	25	18	34	52	39	25	30	51	26	46	17
Number of deaths	10	6	14	14	14	8	6	10	4	9	2

RECAPITULATION.

	Actual No. of houses visited.	Actual No. of families visited.	Sick prescribed for.	Found treated by other physicians.	Total No of re-visits.	No of patients sent to hospitals.	No. of deaths	No of circulars
1st District ...	303	305	321	2	904	25	10	0
2d "	315	315	318	4	634	18	6	0
3	368	368	378	3	1293	34	14	0
4th	846	877	851	33	1165	52	14	0
5th .	255	284	318	11	857	39	14	0
6th ...	258	265	289	3	543	25	[illegible]	0
7th "	20	219	230	33	636	30	6	0
8th .	400	414	454	0	694	51	10	0
9th "	265	293	311	5	400	26	4	0
10th ..	390	422	458	0	720	46	9	0
11th "	192	203	200	0	506	17	2	0
Total .	3812	3965	4129	84	8352	363	97	0

RECEIPTS AND DISBURSEMENTS OF THE BOARD OF HEALTH FOR THE YEAR ENDING DEC. 31, 1903

RECEIPTS

Balance on hand Jan 1, 1903	$ 1,714.73	
Appropriated by Common Council (tax ordinance)	18,000.00	
Appropriated by Common Council (Production of Tubercle Antitoxin)	2,000.00	
Appropriated by Common Council (Contingent Fund)	42,000.00	
Fines collected (Board of Health Cases)	289.47	
		$64,004.20

OFFICE RECEIPTS

Filing plans (Plumbing Division)	$2,744.00	
Milk licenses	2,290.00	
Animal permits	105.70	
Ice licenses	316.00	
Ice license plates	98.50	
Chicken slaughter house permits	6.00	
Sale of formaldehyde	2.16	
Heating and motors service Adams & C	163.78	
Sale of office railing (P. Bowers)	15.00	
Privy vault and cesspool permits	23.20	
Scavenger licenses	100.00	
	—	$5,864.34

BACTERIOLOGICAL DIVISION

Sale of Diphtheria Antitoxin	$587.70	
Sale of Special Tubercle Antitoxin	110.00	
Bacteriological Examinations (out of city)	115.00	
Sale of culture tubes	2.80	
	-	$815.50
Total		$70,684.04

DISBURSEMENTS SANITARY DIVISION

Health Officer	$4,500.00
Clerks (3)	3,693.36
Stenographer	780.00
Supt Bureau Contagious Diseases.	2,000.00
Office Boy	264.00
Chief Disinfecting Corps	1,200.00

Chemist	1,325 00	
Meat Inspectors (2)	2,318 55	
Plumbing Inspectors (3)	3,700 00	
Milk Inspector	900 30	
Sanitary Inspectors (19, increased to 22 @ $72 per month)	17,997 83	
Meteorologist	72.00	
Janitor	480.00	
Caretaker Isolation Hospital	360 00	
		$39,600 10

CITY DISPENSARY

City Apothecary	$1,500 00	
Assistant City Apothecary	1,000.00	
Dentist	300.00	
Janitor	240.00	
		$3 040 00

BACTERIOLOGICAL DIVISION

Bacteriologist	$3,000.00	
Assistant Bacteriologist	1,000 00	
Laboratory Assistant	900.00	
Culture Collector	1,095 00	
		$5 995 00
District Physicians (11 @ $40 per month)		5 280 00
Total salaries		$33,915 10

DISBURSEMENTS. SANITARY DIVISION.

Office rent	$2,500.00

LIGHTING AND HEATING

Gas	$ 1.10	
Electric Light	163 67	
Coal	200 01	
Wood	4 00	
		$368 78

TELEPHONE SERVICE.

Supt Bureau Contagious Diseases—residence	$ 60.35	
Health Officer's residence	65 15	
Health Office	190.70	
Moving switch—Health Office	3.85	
		$320 05

SUPPLIES.

Calipers and rulers (Plumbing Inspectors)	$1 95
Rubber stamp	2 50
Repairing furniture .	4.58
Uniform buttons	5 00
Stenographer's service (Board of Health vs Ribbans case)	5 00
Seal press—office	5 50
Seals and press—Milk Inspector	5 50
Electric torches (Plumbing Inspectors).	5.86
City Directory	6 00
Inspection Watershed (board and carriage hire) ...	6 00
Costs, 2nd District Court (Board of Health vs Ribbans case)	6 40
Telegrams	7 30
Awnings (putting up and taking down and repairing)	9 00
Typewriter supplies .	9 50
Screens—office	10.00
Flowers (centre piece for garden)	10 25
Electrical repairs (office)	10 43
Plumbing repairs (office)	10 80
Janitor extra service ..	12 00
Board of Health Badge (Commissioner) ...	12 00
Washing towels (Office and Milk Inspector)	13 42
Standard Dictionary and stand (office)	15 25
Letter files and transfer cases (office)	17 78
Ice license plates	21 00
Car fare (office)	24 80
Hardware	26 60
Carriage Hire	29.00
Smoke machine (Plumbing Division)	29 65
Ice (office) .	35 88
Insurance (office furniture, etc.)	37 50
Advertising Board of Health Ordinances (Food, Ice and Tenement Houses)..... .	40.00
Janitor's supplies	41 94
Legislative records .	50 00
Expert examination of books ...	60 00
Werner Runge (expenses to Vet. Asso., Ottowa, Can.)	91.00
Ditching meadows (mosquito extermination)	200 00

Board of Health Members (expenses to Amer Pub Health Asso, Washington, D C.) .	263.50	
Incidental expenses (postage, carfare, etc.)	305.62	
Printing and stationery (office)	831 16	
		$[illegible]
		$[illegible]

SANITARY DIVISION

Cost in Caring for and Maintaining [illegible] Hospital [illegible] from May to December, 1903

Wagon repairs	$5 77	
Water rent ..	7 50	
Horse shoeing	11 50	
Coal .	12 50	
Hardware	13 02	
Oils, paint, glass, etc.	22 28	
Hay and feed	[illegible]	
Telephone service	[illegible]	
William Blanchard, Caretaker (salary resolution)	60 00	
Labor (destroying bu[illegible])	61 25	
Plumbing work	[illegible]4 13	
		$464 2[illegible]

CITY DISPENSARY

G[illegible]s	$ 2 70	
Putting up and taking down awnings	3 00	
City directory	6 00	
Signs	12 00	
Surgical supplies	18 00	
Janitor supplies .	18 22	
Plumbing	25 99	
Washing towels	36 03	
[illegible]	51 75	
C[illegible] .	59 10	
Telephone service	90 34	
Printing and stationery	149 50	
Vaccine .	285 00	
Drugs	1,572 22	
		$2,329.85

DISINFECTING CORPS

Rubber hose	$ 3 75	
Kerosene oil	4 05	
Repairing wagon	5 50	
Cotton batting	8.28	
Hose hire	12.00	
Burners and needles for regenerators	16.15	
Horse shoeing	19.00	
Harness, blankets and repairs	38.60	
Car tickets	115.00	
Board of horse	147 49	
Wagon	165 00	
Disinfectants	571 30	
		1 106 12
		$9,459.00

BACTERIOLOGICAL DIVISION

Extra help (bleeding antitoxin horses)	$ 2.00	
Clipping antitoxin horses	3 75	
Iron stand for laboratory	5.00	
Filters	6.00	
Harness, blankets and repairs	18.25	
Insurance (antitoxin horses)	45.00	
Carpenter work	73 43	
Horse shoeing	113.00	
Printing and stationery	115.00	
Incidental expenses (postage, express, etc.)	137 20	
Guinea pigs	159.00	
Laboratory supplies	236 37	
Professional services (veterinarian antitoxin horses)	525.00	
Board of antitoxin horses (5)	1,200.00	
		$2 639 00

PRODUCTION SPECIAL TUBERCLE ANTITOXIN

Clipping horses	$ 2 25	
Horse blankets	5.55	
Printing and stationery	18.50	
Laboratory supplies	20.25	
Horse shoeing	32 50	
Purchase of horse	125.00	
Board of horses (3)	500.00	
		704 05
		$12,802 71

COST OF MAINTENANCE OF SMALL POX PATIENTS AT ISOLATION HOSPITAL FROM JAN. 1 TO MAY 1, 1903.

Newspapers	$ 3.16	
Electrical repairs	4.80	
Ice	5.18	
Alcohol	5.20	
Water supply	7.50	
Hardware	5.70	
Kerosene oil	7 63	
Harness, supplies	10 55	
Kitchen utensils	11.38	
Liquors	11 88	
Horse shoeing	17 38	
Gauze, bandages	18.30	
Grading grounds	24.00	
Milk	62.11	
Telephone service (2)	63 60	
Hay and feed	66.63	
Drugs	70.77	
Plumbing work	86.33	
Gas	84.60	
Electric Light	156.60	
Coal	264.62	
Groceries	298.08	
Meats and vegetables	370.05	
Salaries (nurses, ward maids and orderlies)	2,256.70	
		3,912.75
Total		$16,715.46

STATEMENT -ASSETS

Balance on hand Jan 1, 1903	$1,714.73	
Appropriated by Common Council	62,000.00	
Fines collected Board of Health cases	289.47	
Office receipts	5.864 34	
Bacteriological Division	815 50	
		$70.084 04

LIABILITIES SALARIES

Sanitary Division	$39 600.10	
City Dispensary	3.040 00	
Bacteriological Division	5 995 00	
District Physicians	5.280 00	
		$53.915 10

SUPPLIES

Sanitary Division	$6,023.69	
City Dispensary	2,329.85	
Disinfecting Corps	1,106.12	
Bacteriological Division	2,639.00	
Production Tubercle Antitoxin	704.05	
Small Pox Jan 1 to May 15, 1903	3,912.75	
		16,715.46
Total liabilities		$70,630.56
Cash on hand Dec 31, 1903		53.48
		$70,684.04

REPORT OF SUPERINTENDENT OF BUREAU CONTAGIOUS DISEASES.

Mr. David D. Chandler, Health Officer

DEAR SIR—I have the honor to present the following report of the work of the Bureau Contagious Diseases for the year 1903:

OUR POPULATION

Our estimate for 1903 is fixed at 266,000, this estimate being merely an approximate one. The population is distributed in 15 wards, as follows:

WARD.	POPULATION
1	1 ,133
2	14,998
3	22,698
4	12,439
5	16,431
6	19,149
7	15,859
8	14,876
9	13,414
10	19,641
11	16,000
12	18,240
13	22,322
14	24,087
15	15,950
Total	266,000

THE DEATH RATE.

The death rate for 1903 is fixed at 18.50 per thousand, there being 4,923 deaths. The following tables compare these rates for the last ten years. It is the lowest rate for 10 years, excepting 1897 and 1898:

YEAR	POPULATION	NO. OF DEATHS	DEATH RATE
1894	203,923	4,543	22.28
1895	215,725	4,616	21.37
1896	225,000	4,716	20.96
1897	230,000	4,010	17.43
1898	235,000	4,303	18.30
1899	240,000	4,537	18.90
1900	246,070	5,006	20.34
1901	250,000	4,806	19.22
1902	255,000	4,943	19.38
1903	266,000	4,923	18.50

SCARLET FEVER.

During the year 1903 we had reported 779 cases and 71 deaths. Death rate, 9 1-10 per cent. Comparing these with the previous years, we have:

YEAR	CASES	DEATHS
1894	1,145	69
1895	623	35
1896	537	17
1897	1,358	54
1898	478	15
1899	607	34
1900	708	55
1901	643	43
1902	557	40
1903	779	71

Average mortality for 10 years—5 6-10 per cent.

AGE—SCARLET FEVER.

Cases under 10 years	610	78 per cent.
Cases 10 to 15 years	124	16 "
Cases 15 to 20 years	29	
Cases 20 to 40 years	13	
Cases over 40 years	3	
	779	

REPORTED CASES AND DEATHS BY MONTHS

MONTH	CASES	DEATHS
January	8[illegible]	9
February	[illegible]6	6
March	67	7
April	38	5
May	57	8
June	87	2
July	29	3
August	25	0
September	25	1
October	44	3
November	137	16
December	162	11

Total for 1903—779 cases and 71 deaths.

TYPHOID FEVER

During 1903 we had reported 306 cases and 63 deaths, a mortality of 20.6 10 per cent. Comparing previous years, we have:

YEAR	CASES	DEATHS
1894	89	34
1895	149	50
1896	100	47
1897	103	33
1898	174	41
1899	214	66
1900	320	50
1901	316	57
1902	289	47
1903	306	63

Average mortality for 10 years 20 8.10 per cent

TYPHOID FEVER CASES AND DEATHS BY MONTHS

MONTH.	CASES.	DEATHS
January	16	4
February	23	2
March	16	4
April	27	7
May	13	5
June	15	3
July	25	7

MONTH.	CASES	DEATHS
August	36	4
September	26	2
October	37	4
November	31	8
December	41	10

Total for 1903 -306 cases and 63 deaths

SMALL POX

Our outbreak in this disease, which began back in 1901 began rapidly to subside, after April no more cases appearing; the record standing as follows:

SMALL POX—REPORTED CASES AND DEATHS, 1903

MONTH.	CASES	DEATHS
January	14	2
February	4	0
March	6	1
April	1	0
Total	25	3

Comparing previous years:

YEAR.	CASES	DEATHS
1894	131	18
1895	13	2
1896	0	0
1897	0	0
1898	0	0
1899	22	0
1900	15	1
1901	387	71
1902	901	187
1903	25	3

During 1903 there were 4,671 vaccinations. Of these 2,070 or 37 per cent were in September, showing the influence of the compulsory school law. This is a great falling off from previous years.

1901	38,288
1902	26,043
1903	4,671
	69,002

DIPHTHERIA

During 1903 there were reported 1,150 cases and 120 deaths 10 4-10 per cent.

DIPHTHERIA CASES AND DEATHS.

YEAR	CASES.	DEATHS
1895	1,321	273
1896	1,261	218
1897	969	137
1898	1,019	133
1899	1,170	124
1900	1,417	143
1901	1,154	103
1902	985	105
1903	1,150	120

DIPHTHERIA (ANTITOXIN USED)

YEAR	CASES.	DEATHS	PERCENTAGE
1895	384	52	13
1896	905	106	11
1897	563	61	11
1898	646	68	10 1-2
1899	798	70	8 77-100
1900	987	80	8 1-10
1901	956	58	6 6-100
1902	775	61	7
1903	953	71	7 4-10

DIPHTHERIA (ANTITOXIN NOT USED)

YEAR	CASES.	DEATHS	PERCENTAGE
1895	937	221	23
1896	[illegible]	112	31
1897	406	76	19
1898	373	65	17 1-2
1899	372	54	14 1-2
1900	430	63	14 6-10
1901	198	45	22 7-10
1902	210	44	19
1903	197	49	24 87-100

DIPHTHERIA (REPORTED CASES BY MONTHS

	CASES	DEATH
[illegible]		
January	91	14
[illegible]	77	6
March	69	[illegible]
April	82	8
May	83	11
June	112	8
July	69	6
August	71	10
[illegible]	72	9
[illegible]	94	7
November	104	14
December	108	18

[illegible] and 125 deaths

VITAL STATISTICS.

The following is a summary of the chief statistics kept

DEATHS—1903

Total deaths	4,223
Tuberculosis	718
Diphtheria	99
Scarlet Fever	71
Typhoid Fever	3
Small Pox	3
Whooping Cough	44
Measles	-
Glanders	1
Tetanus	

BIRTHS 1903

White	6,917
Colored	124
[illegible]	7,041

Rate per thousand 26.47

MARRIAGES

White	3,174
Colored	76
Total	3,250

Rate per thousand—12.2.

STILL BIRTHS

White	37
Colored	1
Not stated	
Total	38

Rate 1.44 per thousand

DEATHS BY SEX 1903

Males	2745
Females	2178
Total	4923

DEATHS BY COLOR 1903

White	4702
Colored	220
Mongolian	1
Total	4923

DEATHS IN INSTITUTIONS

Newark City Hospital	38
St. Michael's Hospital	25
St. Barnabas Hospital	62
St. James Hospital	71
Essex Co. Hospital for Insane	7
German Hospital	5
Barnes Hospital	03
Little Sisters of the Poor	30
Arms House	9
Women's and Children's Hospital	3
Hebrew Hospital	10
Emergency Hospital	4
Eye and Ear Infirmary	3
Isolation Hospital	4
City Ambulance	1
Convent of the Good Shepherd	2
Essex County Jail	1
St. Peter's Home	1
Police Station	1

Baptist Home	3
Krueger Home	1
Patrol Wagon	5
House of the Good Shepherd	4
Home for Aged Women	3
Home for Crippled Children	2
Continental Hotel	
Planters' Hotel	2
Foster Home	3
Home for Incurables	4
Homeopathic Hospital	
Light House, Newark Bay	
St Vincent's Academy	2
Total	1,128

Rate 4.24 per thousand, or 22 9-10 per cent total mortality

MORTUARY REPORT

Total deaths for 1903, 4,923. Principal causes of death:

DISEASES

SPECIFIC INFECTIONS.

Diphtheria and Membranous Croup	120
Scarlet Fever	71
Typhoid	63
Influenza or La Grippe	31
Small Pox	3
Measles	2
Whooping Cough	44
[illegible]	3
Erysipelas	20
Septicæmia	23
Pyæmia	8
Dysentery	22
Malarial Fever	2
Remittent	3
Tetanus	6
Syphilis	14
Tuberculosis	34
(a) Pulmonary	[illegible]
(b.) Lymphatics	1
(c) Serous Memb	3
(d) Osseous	6
(e) Larynx	7
(f) Brain and Cord	38
Glanders	1
Total	1,154

DEVELOPMENT

Cyanosis	21
Marasmus	126
Inanition	80
Senility	86
Cancer	190
Tumors	5
Other conditions	9
Total	517

CONSTITUTIONAL

Rheumatism	
(a) Acute	4
(b) Chronic	7
(c) Arthritic	2
Diabetes	30
Rickets	7
Elephantiasis	1
Scurvy	2
Total	53

RESPIRATORY

Laryngitis	9
Oedema Larynx	3
Croup (see Diphtheria)	3
Bronchitis, acute	59
Bronchitis, chronic	49
Broncho Pneumonia	113
Capillary Bronchitis	26
Pneumonia	385
Pleurisy, acute	8
Pleurisy, chronic	1
Empyema	9
Asthma	18
Abscess, Lung	1
Other Diseases	23
Total	707

CIRCULATORY

Pericardia	2
Endocardial	226
Myocardial	28
Valvular	73
Hypertrophy	2
Dilitation	29
Neurosis	7
Angina Pectoris	12
Fatty Degeneration	18
Other Diseases	43
Total	440

GENITO-URINARY TRACT

Nephritis (Bright's)—	
Acute	62
Chronic	274
Pyelonephritis	1
Uræmia	46
Uræmic Convulsions	3
Eclampsia	7
Surg Diseases	1
Other Diseases	2
Total	395

ALIMENTARY TRACT

Mouth	1
Stomach	14
Gastritis, acute	15
Gastritis, chronic	14
Stomach, ulcer	10
Enteritis	125
Diarrhœa	10
Cholera Infant	55
Colitis	14
Entero Colitis	20
Appendicitis	29
Typhlitis and Perityph	1
Strangulation Bowel	15
Obstruction, Bowel	28
Liver Diseases	95
Peritoneum Diseases	22
Surg Diseases	4
Total	481

PUERPERAL ACCIDENTS

Puerperal Fever	11
Eclampsia	7
Placenta Prævia	6
Hæmorrhage	4
Premature Birth	115
Still Birth	9
Other Conditions	12
Surgical Diseases	1
Total	165

TOXAEMIAS

Alcohol	55
Lead	1
Arsenical, suicide	
Ill. Gas -Suicide, 3 + 13	16
Carbolic Acid Suicide 37 + 2	39
Ptomaines	1
Plants	2
Total	116

BLOOD AND DUCTLESS GLANDS

Anæmia	6
Anæmia, pernicious	4
Leukæmia	4
Hodgkins' Disease	2
Addison's Disease	1
Goitre	2
Total	19

NERVOUS SYSTEM

Meningitis	14
Apoplexy	4
Paralysis	4
Neuritis	1
Hemiplegia	17
Brain, softening	18
Brain, hæmorrhage	1
Brain, tumors	5
Paralysis, agitans	
Convulsions, infant	413
Epilepsy	9
Surg. Diseases	10
Other Diseases	22
Total	640

UNCLASSIFIED

Accidents	164
Suicide	3
Homicide	3
Gangrene	10
Exhaustion	14
Other Cases	4
Total	238

[TABLE NO I.]

BIRTHS REPORTED FOR THE YEAR 1903.

COLOR		SEX.			NATIVITY OF PARENTS.									NAME OF CHILD		LEGITIMACY		
									Nativity of Father only Stated		Nativity of Mother only Stated.							
White.	Colored.	Male.	Female.	Not Stated	Native	Foreign.	Foreign Father only.	Foreign Mother only.	Native.	Foreign.	Native.	Foreign.	Not Stated	Stated.	Not Stated.	Legitimate	Illegitimate	Total
6917	124	3592	3438	11	2819	3197	541	402	12	14	41	14	1	6035	1006	6969	72	7041

[TABLE NO II.]

STILL BIRTHS REPORTED

SEX.			FATHER			MOTHER.			COLOR.			
Male.	Female.	Not Stated.	Native	Foreign.	Not Stated.	Native.	Foreign.	Not Stated	White.	Colored.	Not Stated.	Total.
219	157	9	162	197	26	166	202	17	363	20	2	385

[TABLE No. III.]

MARRIAGES FOR THE YEAR 1903.

White		Colored		Nativity.						First Marriage		Second Marriage		Third Marriage		Fourth Marriage		Not Stated.		
				Native		Foreign		Not Stated.												
Male	Female	Male.	Female	Male	Female	Male	Female.	Male	Female.	Male	Female	Male	Female.	Male.	Female.	Male.	Female	Male.	Female.	Total.
3171	3174	76	76	1889	1905	1354	1307	7	18	2901	2885	330	289	10	13	0	4	29	59	3250

INFECTIOUS DISEASES REPORTED BY WARDS

Wards	Diphtheria, including Membranous Croup	Scarlet Fever	Typhoid Fever	Small Pox
1st	36	17	23	0
2d ..	32	14	19	1
3d	94	105	22	2
4th	56	13	10	1
5th	80	55	22	1
6th	73	37	29	1
7th...	46	35	22	1
8th	43	71	19	1
9th....	62	23	25	2
10th.....	82	81	17	11
11th	66	53	20	3
12th	141	38	20	0
13th	110	74	23	0
14th.	155	146	22	1
15th	75	17	13	0
Total ...	1151	779	306	25

Respectfully submitted,

EDWARD E WORL, M. D.,
Supt. Bureau Contagious Diseases

Report of the Division of Bacteriology.

To Mr. D. D. Chandler, Health Officer.

Dear Sir—Herewith is respectfully submitted the report of the Bacteriological Division for the year ending December 31, 1903.

It is gratifying to report that during the nine years this division has been established each year shows an increase in the amount of work performed, and 1903 surpassed any of the preceding years in the number of specimens of various kinds received for examination, as well as in the demand for the Antitoxins prepared by the Board.

The following table shows the number of routine examinations made each month during the year, and the amount of Diphtheria Antitoxin produced and distributed during the same period.

Many examinations and analyses of various kinds are made for physicians in cases of unusual or obscure conditions to aid them in making diagnoses. These examinations are not included in the table, even though they consume a moderate proportion of the time of the Laboratory Staff However, as we are frequently able to render considerable aid to physicians and their patients, it seems wise to continue this line of work whenever it does not interfere with the routine work of the department

LABORATORY RECORD FOR 1903.

DIPHTHERIA EXAMINATIONS	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Primary cultures	171	141	140	110	133	139	94	95	88	124	383	311	1528
True Cases	59	40	44	48	58	71	50	41	45	65	111	131	763
Primary and Secondary Cultures	294	252	293	208	241	202	178	109	83	252	573	508	2682
DIPHTHERIA ANTITOXIN.													
No. Vials Produced	200	180	288	117	307	192	157	110	168	0	578	572	2975
No. of Vials used by Physicians	210	212	128	174	275	258	96	213	225	213	358	410	2782
TUBERCULOSIS EXAMINATIONS.													
Tubercle Bacilli found	89	62	112	76	78	99	104	75	81	93	89	97	1036
Tubercle Bacilli not found	93	97	122	112	81	65	83	65	54	91	94	89	1041
TYPHOID BLOOD EXAMINATIONS.													
Positive Reactions	19	17	15	23	17	17	35	35	23	38	37	37	292
Suspicious Reactions	3	3	1	2	5	1	5	7	11	13	7	10	73
Negative Reactions	31	41	54	41	59	51	59	43	64	36	82	32	543
WATER EXAMINATIONS.													
No. of Specimens	7	15	9	7	13	7	18	22	38	11	18	15	180
Disinfection Tests	120	101	97	98	91	149	97	66	75	101	157	201	1356

DIPHTHERIA AND DIPHTHERIA ANTITOXIN.

The number of vials of Diphtheria Antitoxin produced during the year was 2,975, of which 2,798 vials were distributed.

The results of the use of Antitoxin in treating diphtheria in Newark during 1903 show that the good effects obtained in previous years with this remedy continue, and the following table shows the actual and percentage mortality, with and without Antitoxin, for the past nine years:

WITH ANTITOXIN

YEAR.	CASES	DEATHS	PER CENT.
1895	584	52	13
1896	905	106	12
1897	563	61	11
1898	646	68	10
1899	798	70	8
1900	987	80	8
1901	956	58	6
1902	775	61	7
1903	953	71	7

WITHOUT ANTITOXIN

YEAR.	CASES.	DEATHS	PER CENT
1895	937	221	23
1896	356	112	31
1897	406	76	18
1898	373	65	17
1899	372	54	14
1900	430	63	14
1901	198	45	22
1902	210	44	19
1903	197	49	25

The total mortality from diphtheria in Newark for 1903 is somewhat higher than for 1902, but the percentage mortality is less. In view of the fact that physicians were

frequently not called to treat many of those who died, until the disease had progressed so far that medical aid was unable to prevent death, it is unfortunate that some means cannot be provided by which parents, or those who have children under their care, may be taught to aid, in an intelligent manner, the work of the Board of Health and the best interests of the community, in determining the nature of what seems to them "simple sore throat," even before it seems necessary to call in the doctor.

We find the average age of those who died of diphtheria during 1903 was 5½ years. These children are not to be found at school as a rule, and, therefore, are not to be reached by school inspection.

It is only by interesting the parents or guardians, and, if possible, have them take cultures from the children when the first symptoms are noticed, instead of waiting until the physicians must be called in, can we hope to materially lessen the number of deaths from diphtheria.

Printed instructions accompanying each culture outfit, which, if followed, would enable anyone to take the culture, and in this way cases could be brought to the notice of the Executive Department sufficiently early to permit measures to be taken to prevent the spread of contagion, and probably save some children who would otherwise die

TUBERCULOSIS

This disease has commanded an unusual amount of attention at the laboratory during the year, and the number of specimens of sputa received from suspected tuberculous persons, exceeded any year since this department has been established

The following table shows how this work has increased during the last six years:

SPUTA EXAMINATIONS

YEAR	POSITIVE.	NEGATIVE	TOTAL.
1898	312	378	690
1899	308	491	799
1900	380	623	1,003
1901	366	594	960
1902	796	746	1,542
1903	1,030	1,041	2,071

A small number of the positive cases in the above table were re examinations of specimens from cases previously examined, to determine the progress of the disease, or results of treatment. The great majority, however, were specimens from individual cases, and the number indicates that Newark, like all large cities, has a fair share of tuberculosis.

The following interesting report on this subject was compiled from the laboratory records by the Assistant Bacteriologist, Dr Thos H. Ripley

To the Bacteriologist

DEAR SIR:—The number of examinations made at the laboratory of sputa from suspected cases of Tuberculosis is still on the increase

For the year 1903 we made 2,071 examinations, of which 1,030 contained the "tubercle bacillus" The physicians for whom the examinations were made furnished data regarding the sex and age of 435 cases in which the tubercle bacillus was found 267 of these were male and 175 female

The following table shows the sex and time of life in which the disease occurs

AGE.	MALE.	FEMALE
1 to 10 years	2	2
10 " 20 "	18	16
20 " 30 "	111	69
30 " 40 "	81	47
40 " 50 "	37	23
50 " 60 "	17	6
60 and over	3	5
	267	168

The above table shows that it is between the ages of 20 and 40, the most useful and active period of life, that the greatest number of cases occur

INFLUENCE OF OCCUPATION ON THE LIABILITY TO TUBERCULOSIS

It is a well known fact that the habits and occupations of people have a great influence in predisposing them to the disease. From an examination of the following table it will be seen that Tuberculosis is comparatively rare among those who live an out-door life under healthy and normal conditions, and that it is comparatively common in those who live habitually indoors

The occupations given were as follows

Awning Maker	1
Agents	3
Butchers	3
Boxmaker	1
Blacksmith	1
Bartenders	8
Brewers	2
Bookbinder	2
Bookkeepers	4
Lineman	1
Laborers	18
Longshoremen	2
Leather Workers	8
Letter Carriers	2
Laundry Work	2
Machinists	3
Merchant	1
Medical Student	1
Barbers	4
Bakers	4
Carpenters	2
Clerks	17
Chemical Works	1
[illegible]	1
[illegible]	1
Conductors	2
Caterer	1
Cigar Makers	4
Domestics	7
Drummers	4
Drivers	5
Dressmaker	1
Druggist	1
Electrician	1
Farmer	1

Factory Hands	24
Foreman	1
Gardener	1
Glassworker	1
Grocers	2
Housework	11
Hostlers	2
Hatters	8
Iron Moulders	3
Inspector	1
Jewelers	8
Masons	4
Nurses	5
Painters (house)	4
Piano Maker	1
Policeman	3
Plumbers	2
Porter	1
Polisher	1
Printer	1
Shipping Clerks	2
Salesmen	4
Street Worker	1
R. R. Employees	3
Cotton Spinner	1
Shoemaker	1
Stenographers	3
Students	2
School Teacher	1
Stone Cutter	1
Trunk Makers	3
Tailors	3
Tanners	3
Wood Carvers	2
Waiters	3
Watchmaker	1

The limited data furnished by the physicians shows that in the 435 cases examined, 92 or over 21 per cent had Consampt.on in the immediate family, and direct infection may have taken place in this way.

The following tables have been prepared from the laboratory records of examinations made in the past five (5) years, so far as the

physicians have furnished *positive* data, to show the distribution of Tuberculosis in the city

Number of streets in which cases occur	327
Number of houses in which cases occur	1,209

It will be seen from an examination of the table which follows that about 36 1 3 per cent of the dwellings affected, shows evidence of infection by a repetition of Tuberculosis in years subsequent to the first case examined

Table showing distribution of infected houses where two or more cases have occurred in the past five years:

STREETS.	Houses	1899	1900	1901	1902	1903	Total
Ann st	1		1			1	2
Barclay st	1				1		2
Belmont ave	1			1	1		2
Bergen st, 2	1		2	1			3
Bergen st, 2	1		1			1	2
Brentnall Pl	1	1	1				2
Brill st	1		1	1			2
Broome st, 2	1			1	1	1	3
Broome st, 2	1		1	1			2
Bruce st	1		1		1		2
Central ave	1	1				1	2
Clifton ave	1					1	2
Court st	1	1	1				2
Duryea st	1			1	1		2
Eighth ave	1		1			1	2
Ferry st, 3	1		1	1		1	3
Ferry st, 3	1		1				1
Ferry st, 3	1			1		1	2
Fifteenth ave	1	1					1
Freeman st	1	1			1		2
Garside st, 2	1	1					2
Garside st, 2	1				1	1	2
Hamburg Pl	1						2
Houston st	1				2		2
Hunterdon st, 3	1					1	2
Hunterdon st, 3	1			1		1	2
Hunterdon st, 3	1				1		2
Livingston st	1	1	1				2
Magazine st	1	1				1	2
Mulberry st	1	1					2
Mt Prospect ave	1			1		1	2
Newark st	1					2	2
Newton st	1			1	1		2
Prince st, 2	1		2				2
Prince st, 2	1		1	1			2
Prospect st	1					2	2
Rose st	1					2	3
South 9th st	1			1		2	4
South Orange ave	1	1				1	2
Spruce st	1		1		1		2
Vanderpool st	1				1	1	2
Wakeman ave	1					1	2
Washington st					1	1	2
Wickliffe st	1				1	1	2
	44	1	10	15	22	27	94

. . noticed in going over the records that a house which has
f . of Consumption in it, will be apt to have another
within a few years and may have a number in close succession; also that approximate houses are considerably exposed to the contagion so that it appears in groups in different localities. While density of population and filth attract the disease, it also appears in the more thinly populated and cleanly sections of the city, showing the highly infectious character of Tuberculosis

Very respectfully,

DR THOS. H RIPLEY
Assistant Bacteriologist

The above report is particularly interesting in the fact that it calls attention to many streets of the city containing dwellings in which more than one case of tuberculosis developed during the last five years, and justifies the action of the Board of Health in insisting on the thorough disinfection of premises after death or removal of persons suffering from this disease.

SERUM TREATMENT OF TUBERCULOSIS.

During the year, under the direction of the President of the Board, Dr H. C. H Herold, there have been prepared at the laboratory two kinds of Antitoxin, intended to be used especially against tuberculous infection, and the following circular was sent to physicians and those interested in the work

SEPSIS ANTITOXIN

PREPARED AT THE

BACTERIOLOGICAL LABORATORY OF THE BOARD OF HEALTH.

NEWARK, N J

Sepsis Antitoxin is prepared by immunizing healthy horses to the various pyogenic bacteria, together with a number of the associated germs found in the expectoration and suppurating discharges of phthisical patients

Dose —In consumption two cubic centimeters (about 30 minims) every five days, injected subcutaneously, preferably into the gluteal region, using aseptic precautions

In acute septicæmia, two c. c. injected every eight hours for three days have given good results

Pneumonia and erysipelas have also been benefited by injections of the serum

The progress of the patient is the only indication as to how long the injections should be continued, and most patients do best when the Sepsis Serum is alternated with the Tubercle Serum.

While using the serum treatment in consumption it is particularly recommended that other remedies, which experience suggests, should be continued whenever possible, as creosote, etc., forced feeding and open air life The character of the disease requires that the patient be given every aid to combat the infection

Results obtained in the first and second stages of the disease have been very encouraging In the third stage, however, when much destruction of tissue has taken place distressing symptoms have been relieved, but the prognosis is bad.

As with all serum remedies, we sometimes find urticaria and joint pains following the injections These may be treated symptomatically and usually disappear in 24 to 36 hours without treatment. If severe it is wise to diminish size of dose or increase interval between injections

Camphor only is used as a preservative; therefore, the serum must be used immediately on removal of cork from bottle, and any serum left destroyed

TUBERCLE ANTITOXIN

PREPARED AT THE

BACTERIOLOGICAL LABORATORY OF THE BOARD OF HEALTH

NEWARK, N J

Tubercle Antitoxin is prepared by immunizing healthy horses to the toxic products of the tubercle bacillus

Dose. Two cubic centimeters every five days, injected subcutaneously, using aseptic precautions

Experience indicates that most patients do best if Tubercle Antitoxin is alternated with Sepsis Antitoxin, giving the injections once every five days

Some afebrile cases show improvement when the Tubercle Antitoxin is given alone, but febrile cases as a rule do best when the sera are alternated

These sera are made for free distribution to physicians for patients who reside in Newark

The Board of Health charges one ($1 00) dollar per bottle for all that is sent out of the city

These sera can be obtained only at the Bacteriological Laboratory, City Hospital, Newark, N J, on application by physicians.

All communications on this subject should be addressed to

HERMAN C H HEROLD, M D,
President Board of Health,
Newark, N J

OR to R N CONNOLLY, M D,
Bacteriologist City Hospital,
Newark, N J

The amount of these Special Antitoxins produced during the year was 4,566 bottles, almost all of which have been distributed free to physicians for patients residing in Newark, and the demand is increasing every month

Regarding the results of this treatment in tuberculosis it is very difficult to reach positive conclusions, as the nature of the disease makes it unwise to assume that patients are cured until some years have elapsed after symptoms disappear. We have some patients who are well a year after being discharged cured, so far as symptoms and presence of tubercle bacilli in the expectoration are concerned. We have records of a large number of patients whose symptoms have disappeared, but the sputa still contain bacilli, and except for a very few patients who show a marked susceptibility to the serum urticaria, we have encouraging reports from almost all physicians who have used the remedy.

Thus far over three hundred patients have been treated with the serum prepared by the Board.

The most striking results we have had from the serum are the very gratifying effects of the administration of the Septic Antitoxin in cases of Puerperal and Post operative Sepsis In these cases (and we have records of more than a dozen), the use of the serum every two or three hours has produced results which almost every other

plan of treatment proved unsuccessful. The results have been so surprising in some of these septic cases, the thought suggests itself that by injecting patients prior to operative measures, we may be able to confer immunity from infection during the operation.

A very interesting observation was made by Dr. E. W. Sprague, of the Newark City Hospital Staff, that the injection of even the small quantity of 2 C. C. of Sepsis Antitoxin produces a very distinct leucocytosis, which persists for some days after the injection, and gives rise to no symptoms appreciable to either the patient or physician. This is an unusual effect after serum injections and would seem desirable especially in Pulmonary Tuberculosis where the leucocytes are usually below rather than up to the average.

This increase in the series of cases of Pulmonary Phthisis observed, amounted to from 150 per cent. to 300 per cent., as compared with the average determined for the individual before injections, and seemed so far as we could determine to be a physiological rather than a pathological process.

DISINFECTION TESTS

During the year the usual disinfection tests have been made to determine the efficiency of the fumigation of premises after contagious diseases.

The following report of the results of these tests has been prepared by the Laboratory Assistant, Mr. E. L. Skillman:

To the Bacteriologist, R. N. Connoliy, M. D.

DEAR SIR:—Herewith is respectfully submitted the report of disinfections tested during the year

January	120
February	101
March	86
April	99

May		94
June		149
July		97
August		66
September		75
October		101
November		157
December		335
Total		1,380
Neg	1288	
Pos	92	

REMARKS.

Neg.—Negative, meaning no growth of culture—showing satisfactory disinfection.

Pos. Positive, meaning growth occurred—showing unsatisfactory disinfection

E. L. SKILLMAN,
Laboratory Assistant

CITY WATER SUPPLY.

A series of samples of the City Water was obtained each month during the year and the results of the Bacteriological examination are given in the following table, showing the number of bacteria per cubic centimeter and the minimum amount of each sample that caused fermentation in 5 c. c. of glucose bouillon:

Date, 1903.		Origin of Sample	No. Bac. Per C.C.	Amount of Water Causing Fermentation in 5 C. C. Glucose Bouillon. 24 hours old					
				1/20	1/10	1/5	1/2	1 C. C.	5 C. C.
Jan.	20.	Belleville Reservoir, inside Gatehouse	340		-		-	+	+
"	"	Board of Health Office, 880 Broad st.	190	—	—	—	—	+	+
"	"	Laboratory faucet, City Hospital	60		—	—	—	+	+
Feb.	13.	Stream entering Oak Ridge Reservoir	5760	+	+	+	+	+	+
"	"	Clinton Stream, above Oak Ridge	130	—	—	—	—	+	+
"	"	Oak Ridge Stream, above Clinton Stream.	790	—	—	-	—	—	+
"	"	Small Stream back of Brown's Hotel Newfoundland	2300		—		+	+	+
"	"	Macopin Intake, inside gatehouse	1130	—	—	—	—	+	+
"	"	Belleville Reservoir, inside gatehouse	880	—		—	—		+
"	"	Board of Health Office, 880 Broad st	430	—	—	—	—	+	+
"	"	Laboratory faucet, City Hospital	175	—	—	—	—	—	+
Feb.	20	Stream entering Oak Ridge Reservoir	320	—			+	+	+
"	"	Head of Oak Ridge Reservoir	730	—	-	—	—	—	+
"	"	Oak Ridge Stream, above Clinton Stream	290			+	+	+	+
Mch	23	Macopin Intake.	3500				+	+	+
"	"	Kanouse Stream, at Sisco's Bridge	6300	+	+	+	+	+	+
"	"	R. R. Tank Stream back of Brown's Hotel	5100		+	+	+	+	+
"	"	Oak Ridge Stream, above Clinton Stream	2500					+	+
"	"	Clinton Stream, above Oak Ridge Stream.	1230	—	—	—	—		—
"	"	Stream entering Oak Ridge Reservoir	4760		+	+	+	+	+
"	"	Laboratory faucet, City Hospital	240	—	—	—	-	+	+
Apr.	23.	Belleville Reservoir, inside gatehouse	240	—			-	+	+
"	"	Board of Health Office, 880 Broad st	140	—	—	—	+	+	+
"	"	Laboratory faucet, City Hospital	110		-		+	+	+
May	6.	Kanouse Creek, Sisco's bridge	3500	+	+	+	+	+	+
"	"	R. R. Tank Stream, back of Brown's Hotel	1350	—	+	+	+	+	+
"	"	Oak Ridge Stream, above Clinton Stream.	1800		—	+	+	+	+
"	"	Clinton Stream, above Oak Ridge Stream	1050		-		+	+	+
"	"	Oak Ridge inlet.	450	+	+	+	+	+	+

Date. 1903.		Origin of Sample.	No. Bac. Per C.C.	Amount of Water causing Fermentation in [illegible] C.C. of Bouillon					
				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
May	6.	Macopin Intake, inside gatehouse	340			.	+		
		Belleville Reservoir, inside gatehouse.... . . .	220	—			—		
	"	Clifton Avenue Reservoir (10 days quiescent	20	—			—		
"		Laboratory faucet, City Hospital	90					—	
June	15.	Belleville Reservoir, inside gatehouse	[illegible]	—			+	+	+
	"	Board of Health Office, 880 Broad st.	[illegible]					—	
"	"	Laboratory faucet, City Hospital.	[illegible]	—			—	+	
July	22	Belleville Reservoir, inside gatehouse	[illegible]	—			—	+	
	"	Board of Health Office, 880 Broad st	[illegible]	-			+	+	+
"		Laboratory faucet, City Hospital. .	210	—			+	+	
Aug	3	R. R. Tank Stream, back of Brown's Hotel .	[illegible]	—	—		+	+	
		Oak Ridge Stream, above Clinton Stream ..	[illegible]	—			+	+	
		Clinton Stream, above Oak Ridge Stream	860	—			+	+	
"		Main Stream, at Newfoundland.	1130	—		—	—		
"	"	Kanouse Stream, at Sisco's bridge	[illegible]	—			+	+	
"	"	Echo Lake Stream, near Intake	[illegible]	—				—	
"	"	Macopin Intake, inside gatehouse	[illegible]	—			+	+	+
		Belleville Reservoir, inside gatehouse	[illegible]	—			+	+	+
"	"	Laboratory faucet, City Hospital	170	—				+	+
Sept.	14.	Oak Ridge Stream, above Clinton Stream	[illegible]	—				—	
"	"	Clinton Stream, above Oak Ridge Stream .	[illegible]					+	+
"	"	Kanouse Stream, at Sisco's bridge	[illegible]	+	+	+	+	+	
	"	Macopin Intake, inside gatehouse	[illegible]					—	
"	"	Belleville Reservoir inside gatehouse	450	—				+	+
"	"	Laboratory faucet, City Hospital	90	—				+	+
Oct	16	Laboratory faucet City Hospital	230	—	-			—	+
Nov	4.	Laboratory faucet, City Hospital	[illegible]	—				—	+
Nov	24.	Oak Ridge Stream, above Clinton Stream	450	—				+	+
"	"	Clinton Stream, above Oak Ridge Stream	150	—				—	

Date 1903		Origin of Sample	No Bac Per C C	Amount of Water Causing Fermentation in 5 C. C. Glucose Bouillon.					
				20	1/10	1/5	1/2	1 C.C.	5 C.C
Nov	24.	Echo Lake Stream, above Pequannock River	270			—		+	+
"	"	Macopin Intake, inside gatehouse	390			—	—	+	+
"	"	Belleville Reservoir, inside gatehouse.	110			—	—	—	—
"	"	Board of Health Office, 880 Broad st .	60			—	—	—	—
"	"	Laboratory faucet, City Hospital.	70			—	—		
Dec.	15.	Oak Ridge Stream, above Clinton Stream	720			+	+	+	+
"	"	Clinton Stream above Oak Ridge Stream	640		+	+	+	+	+
"	"	R. R. Tank Stream, back of Brown's Hotel	1020			+	+	+	+
"	"	Kanouse Stream, at Sisco's bridge .	3500			—	+	+	+
"	"	Echo Lake Stream, above Pequannock River	830				—	+	+
"	"	Macopin Intake, inside gatehouse.	350				—	+	+
"	"	Belleville Reservoir inside gatehouse.	170	—	.	—	—	—	+
"	"	Board of Health Office, 880 Broad st	130			—	—	—	+
"	"	Laboratory faucet City Hospital	60	—		—	—	—	—

Very respectfully,

R. N. CONNOLLY, M D.,
Bacteriologist.

Mr. David D Chandler, Health Officer.

DEAR SIR—I submit herewith the annual report of the work done in the Chemical Department during the year 1903

MILK.

As usual the bulk of the laboratory work has been the examination of milk. The number of samples analyzed has annually increased and the number for 1903 is more than 40 per cent. greater than for the previous year. There has also been a general increase in other lines of work.

The system of collecting samples is substantially the same as practiced in former years, *e. g.*, in most cases taking them from all dealers without reference to any possible suspicion. Where there is any cause for suspicion the samples are taken in duplicate and sealed. The record now kept of the licensed dealers and the character of the milk sold by them in the past often gives valuable information which aids the inspector in doing this work. It also tends to promote improved sanitary conditions at the stable and the production of "cleaner" milk.

The tabular arrangement of the milk analyses used in former years has been retained. The table of averages has also been continued to date and forms a ready means of comparing the results from year to year.

COMPARISON TABLE.

		1897	1898	1899	1900	1901	1902	1903
Year								
Number of samples analyzed		136	178	221	283	298	330	465
1st class.	Percentage of samples	69 12	70 23	72 40	65 37	68 82	58 18	62.80
	Average % of total solids	13 24	13 24	13 06	13 24	13 10	13 18	12.97
	Average % of fat	.....	.....	3 95	4 06	4 01	4 16	3 88
2d class.	Percentage of Samples	21 32	14 15	15 38	21 55	22 87	27 88	21 29
	Average % of total solids	12 23	12 35	12 27	12 25	12 25	12 25	12.25
	Average % of fat	....		3 60	3 56	3 52	3 55	3 50
3d class.	Percentage of Samples	29 56	15 73	12 22	13 07	13 31	13 94	15 91
	Average % of total solids	11 61	11 58	11 48	11 56	11 82	11 44	11 51
	Average % of fat	.....	.....	3 11	3 25	3 08	3 13	3.18
General average % of total solids		12 87	12 82	12.75	12.77	12.70	12 64	12 60
General average % of fat		.....	.....	3 80	3.85	3.75	3.81	3.68

CLASSIFIED TABLE OF MILK ANALYSES

292 Samples having a Percentage of Total Solids of 12.50 and over Average for Solids 12.974
Average for Fat 3.875

Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat.	Solids	Fat
13.09	4.00	12.88	3.80	12.60	3.60	12.60	3.85	12.99	4.00	12.70	4.20
13.78	4.00	12.90	3.90	13.14	4.20	12.86	4.20	12.81	3.50	12.98	3.80
13.09	4.20	12.79	4.00	12.58	3.75	12.88	4.00	13.60	4.55	12.62	3.70
13.04	4.00	12.95	4.00	12.96	4.00	12.63	3.90	12.78	3.40	12.00	4.40
12.75	4.00	12.70	3.80	13.20	4.00	12.74	4.00	13.48	4.80	13.73	4.30
12.59	3.90	12.90	3.90	12.70	3.75	12.94	3.60	13.87	4.50	13.09	4.30
12.44	2.80	13.00	3.90	13.20	3.75	12.51	3.80	12.54	3.70	12.67	3.40
12.82	3.80	12.55	3.50	12.66	4.30	13.72	3.90	12.88	4.00	12.93	4.15
13.10	4.50	12.89	4.00	12.56	3.90	13.60	4.10	12.73	3.65	12.78	3.70
12.96	3.80	12.84	4.00	13.33	4.00	12.92	4.60	12.67	4.50	12.54	
13.04	4.10	12.79	3.70	13.51	4.25	13.08	4.40	12.96	3.80	13.04	3.80
13.12	3.85	13.00	3.90	12.57	3.80	12.91	3.70	13.32	4.20	13.74	4.00
12.99	3.60	4.00	4.00	12.62	3.80	12.96	3.60	12.91	3.60	12.12	4.30
13.33	4.30	12.95	3.95	12.77	3.60	12.84	3.80	11.91	3.40	12.50	3.70
13.24	4.20	13.20	3.60	12.85	3.85	13.51	3.40	12.50	4.00	13.10	4.00
13.24	4.30	13.17	4.00	12.22	3.80	12.50	4.00	13.84	4.30	13.07	3.60
12.77	3.85	12.51	3.40	12.96	3.60	12.31	4.40	12.50	4.10	12.92	3.70
12.50	3.80	12.70	3.90	12.62	4.05	12.95	4.50	13.58	4.10	12.60	3.70
13.34	4.15	13.02	3.70	12.78	3.70	12.97	3.80	12.64	3.80	13.53	4.40
12.65	3.70	13.26	3.65	13.05	3.80	12.95	...	13.00	4.10	12.11	3.60
12.82	3.60	13.00	4.05	12.28	3.45	12.78	3.85	13.18	4.65	13.13	3.70
13.18	3.60	12.80	3.35	12.53	3.70	13.09	3.90	13.04	4.00	13.73	4.55
13.72	4.20	12.76	4.50	13.05	3.80	13.04	4.10	12.94	3.40	12.84	3.15
13.30	4.20	12.66	3.80	12.85	3.70	12.54	4.05	13.66	3.80	12.78	
13.25	4.10	13.67	3.80	12.86	3.80	12.62	3.60	12.81	3.70	12.80	3.50
13.25	4.60	13.67	4.30	12.80	3.50	13.49	4.50	12.74	4.80	12.83	3.70

CLASSIFIED TABLE OF MILK ANALYSES Continued

232 Samples having a Percentage of Total Solids of 12 50 and over Average for Solids 12 974
Average for Fat 3.875.

Solids	Fat	Solids.	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat
14 04	4 60	12 92	3 25	12 63	3 65	12 72	3 40	12 94	4 00	13 38	4.10
12 81	4 00	12 83	3 25	13 63	4 00	12 89	3 80	13 19	4 60	12 90	4 05
12 58	3 60	13 22	4 10	12 96	4.00	13 02	3 75	13 03	4 45	13 14	4 00
15 07	5 30	13 30	3 90	13 36	3 80	12 95	3 90	12 53	3 60	12 58	3.80
12 95	3 90	12 55	3 50	12 59	3 70	13 10	3 70	13 03	4 15	13 56	4 40
12 72	3 60	13 20	3 80	12 58	3 60	12 55	3 80	13 11	3 60	12 85	4 10
13 06	3 95	12 96	3 60	12 93	3 80	12 90	3 80	13 20	4 20	12 76	3 80
13 01	4 00	12 96	3 60	13 54	4 40	12 94	3 40	13 40	4 20	12 76	3 60
12 80	3 90	12 96	3 60	12,95	4 10	12 83	3 60	12 88	3 75	13 08	4 10
12 94	4 10	13 20	4 40	13 65	3 35	12 95	3 60	12 58	3 20	13 55	4 30
12 86	4 00	12 98	4 00	15 79	4 75	12 56	3 55	12 86	3 80	13 28	4 50
13 89	4 40	13 10	4.20	12 91	4 00	12 86	4 10	12 83	4 15	12 50	3 45
13 56	4 40	12 70	3.70	13 27	3 60	13 20	4.20	13 03	4 00	13 26	4 40
13 16	3 60	12 70	3 80	12 56	3 60	12 72	3 80	12 78	4 00	13 20	3 80
12 73	3 60	12 80	3 40	12 90	3 40	12 61	3 80	13 05	4 00	13 10	3 80
12 89	3 70	12 78	3 85	12,76	3 65	12 87	3 90	13 26	4 00	12 58	3 70
13 09	3 60	13 29	4 20	12 88	3 60	12 56	3 80	13 22	3 75	13 50	4 05
12 52	3 40	12 62	3 40	13 84	4 80	13 31	4 10	13 28	4 15	13 46	4.10
13 35	4 00	12 7	3.70	12.74	3 50	12 78	4 00	12 84	3 60	12.51	3 60
13 52	4 40	13 14	3 70	12.97	4 00	12 50	3 50	12 57	3 55	12 51	3 60
13 03	3 60	14 46	4 00	12 91	3 60	12 55	3 60	12 89	3 90	12 77	3 50
12 85	4 20	13 20	3 50	13,12	4 40	12,98	4.00	12 91	3.75	12 97	4 00
12 79	3 65									13 20	3 80
										12 68	4 10
										13 11	3.80

CLASSIFIED TABLE OF MILK ANALYSES Continued.

99 Samples having a Percentage of Total Solids between 12.00 and 12.50

Average for Solids 12.246 Average for Fat 3.504

Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat
12 36	3 60	12 08	3 40	12 25	3 50	12 36	3 65	12 38	3.40	12 47	3 50
12 29	3 30	12 28	3 60	12 24	3 40	12 07	3 50	12 00	3.65	12 40	3 20
12 49	3 55	12 21	3 30	12 28	3 20	12 00	2 70	12 46	3 70	12 35	3 40
12 26	3 20	12 32	3 80	12 47	3 30	12 31	3 55	12 10	3 60	12 36	3 80
12 24	3 20	12 20	3 60	12 23	3 10	12 10	3 60	12.18	3.30	12.37	3 30
12 12	3 50	12 00	3 60	12 25	3 20	12 48	3 00	12 20	3.50	12 14	3 65
12 21	3 40	12 40	3 50	12 39	3 40	12 33	3 60	12 29	4.00	12.09	3 50
12 23	3 60	12 32	3 80	12 10	3 30	12 36	3 75	12 32	3.60	12 23	3 55
12 24	3 50	12 18	3 30	12 28	3 25	12 45	3 60	12 21	3.40	12 05	2 90
13 09	3 80	12 00	3 20	12 29	3 30	12 18	3 30	12 44	4 15	12.38	3 25
13 38	3 40	12 20	3 30	12 16	3 60	12 37	3 70	12 39	3 60	12 02	3 30
12 10	3 65	12 02	3 55	12 26	3 50	12 00	3 50	12 08	3 20	12 34	3 80
12 02	3 50	12 32	3 30	12 25	3 95	12 31	3 85	12 38	3.30	12 24	3 80
12 46	3 20	12 11	3 25	12 40	4 00	12 37	4 00	12 04	3 40	12.49	3 80
2 00	3 20	12 18	3 60	12 30	3 70	12 22	3 60	12 03	2 80		..
12 43	3 30	12 20	3 30	12 12	3 90	12 33	3 40	12 47	3.65		
12 20	3 90	12.00	3.15	12 22	3 45	12.20	3 60	12.13	3.10		

74 Samples having a Percentage of Total Solids below 12 00

Average for Solids 11.514. Average for Fat 3.175.

Solids.	Fat.	Solids.	Fat	Solids	Fat	Solids	Fat	Solids	Fat
11 87	3.50	11 17	3 00	11 28	3 10	11 75	3 40	11 67	3 40
11 63	3 40	11 17	2 95	11 69	3 40	11 87	3 45	11 45	3 30
11 24	3 45	11 64	3 00	11 52	3 15	11 87	3 10	10 91	3 50
11 68	3 20	9 29	2 90	11 71	3 00	11 20	3.00	11 24	3 20
11 60	3 00	11 90	3 05	11 80	2 80	11 83	3 60	11 00	2 90
11 53	3 60	11 03	2 90	11 94	3 00	10 93	3 20	11 32	3 20
11 47	3 15	11 56	2 85	11 41	2 60	11 41	3 60	10 22	2 90
11 96	3.45	11 54	2 70	11 25	2 80	10 70	2 60	11 47	3 40
9 02	3 10	9 92	2 80	11 53	3 40	11 44	2 65	11 65	3 30
11 92	3 00	11 87	3 40	11 52	3 10	10 23	3 00		
11 58	3 10	11 37	3 15	11 92	4 30	11 85	3.05		
11 68	3 20	11 90	3 00	11 51	3 40	11 72	3 40		
11 86	3 00	11 58	3 40	11 28	3.60	11 74	3 60		
10 89	3 00	11 68	3 40	10 72	3 30	11 52	2 80		
11 32	2.70	11 93	3 50	11 37	3 10	11 00	2 90	...	
11 10	3 00	10 96	3 50	11 88	3 50	11 90	3 40		

Reference to the tables shows that for the first time the average percentage of total solids has fallen below 13 in the samples of the first class. The fat, too, is below 4 per cent. There is also a lower general average for all samples for both solids and fat and, finally, the number of samples below the State standard is relatively greater than for several years past.

Although these comparisons are apparently unfavorable for this year, the differences are not sufficiently marked to indicate an inferior milk supply and might easily be accounted for by an increased activity of the inspector in finding a few more poor samples than usual.

The curious coincidence about the uniformity of the percentage of total solids in the second class is further marked by another identical figure of 12.25 per cent.

PRESERVATIVES.

Preservatives are not often used in the milk sold in Newark, although reports from other sections show that formaldehyde was used during the summer to a considerable extent at the seashore resorts. Formaldehyde was found in one sample of milk and boric acid in a sample of cream

WELL WATER.

Twenty-two well waters were examined during the year and thirteen marked "contaminated," six "suspicious" and three "passable."

MORRIS CANAL WATER.

During the summer a number of analyses of water taken from the Morris Canal were made. Samples were taken at the entrance of the canal to the city, at three or four centrally located points within the city limits and at the eastern city line. Five samples were taken about July 1st and other examinations were made weekly, from July 30th to October 7th inclusive, 4 samples taken from three separate points. The results and their averages are shown in the following table:

ANALYSIS OF MORRIS CANAL WATER, 1903

(PARTS PER 100,000)

Sample taken from	Date of Collection 1903	Free Ammonia	Albuminoid Ammonia	Chlorine	Nitrogen as Nitrites*	Nitrogen as Nitrates	Temporary Hardness	Total Solids	Loss on Ignition	Fixed Mineral Residue	Color
City line at Verona ave	July 31	.0170	0210	50	V Ex	120	2.50	7 40	2 70	4 70	
	Sept 16	0012	0150	40	Small	025	3 00	6 50	1 50	5 00	22
	Sept 24	0054	0175	40	Ex	032	3 90	8 20	4.20	4 00	22
	Sept 30	0010	0240	40	Small	030	3 40	8 00	3 50	4 50	26
	Oct 7	0012	0165	40	Trace	020	3 80	7 50	3 50	4 00	25
Summit street	July 30	0930	0240	70	Ex	030	4 40	8 60	3 70	4 90	24
	Aug. 6	0080	0140	70	None	.100	3 80	7 80	4 00	3 80	.38
	Aug 13	0064	0155	80	Small	140	3 00	8 30	3 20	5 10	32
	Aug 20	0048	0250	80	None	040	3 70	14 00	5 30	8 70	26
	Aug 26	0110	0390	75	V Ex	060	3 80	9 40	3 80	5 60	22
	Sept 2	0175	0460	80	Ex	100	4 00	9 00	4 00	5 00	50
	Sept 9	0026	0148	70	Smal.	100	4 10	10 00	4 50	5 50	27
Plane street	June 29	0106	0350	80	V Ex	150	3 50	10 90	4 00	6 90	
	Aug 20	0016	0200	80	None	065	3 70	17 50	5 00	12 50	40
Broad street	June 29	0186	0190	70	V Ex	120	3.80	10 70	3 50	7.20	
	July 30	0012	0118	70	Trace	035	4 80	9 40	3 50	5 90	24
	Aug 6	0005	0125	70	None	100	3 80	8 00	3 50	4.50	.35
	Aug 13	0054	0200	80	Ex	170	3 00	9 30	3 30	6 00	30
	Aug 26	0048	0220	75	Ex	060	1 00	9 50	4 00	5 50	25
	Sept 2	0154	0230	80	Ex	100	4 00	10 00	4 50	5 50	30
	Sept 9	0026	0148	65	Smal	100	4 10	9 50	4 00	5 50	23
	Sept 16	.0013	.0142	60	Small	.060	3.70	9 00	4 00	5.00	24
	Sept 24	0030	0130	75	Ex	060	3 80	9 50	4 00	5 50	22
	Sept 30	0065	0135	70	Small	080	3 30	8 20	3 60	4 60	.26
	Oct 7	0010	0140	45	V Ex	060	4 00	11 00	5 50	5 50	26

ANALYSIS OF MORRIS CANAL WATER, 1903—CONTINUED

(PARTS PER 100,000.)

Sample taken from	Date of Collection 1903	Free Ammonia	Albuminoid Ammonia	Chlorine	Nitrogen as Nitrites*	Nitrogen as Nitrates	Temporary Hardness	Total Solids	Loss on Ignition	Fixed Mineral Residue	Color
Lock No. 17 N. J. R. R. Av.	June 29	0108	0250	80	Very Ex.	120	3 50	13 0	4 00	6 00	
	July 30	0106	0148	70	Very Ex.	080	5 00	9 00	3 00	6 00	24
	Aug. 6	0024	0135	70	Small	100	6 80	8 60	3 00	5 60	28
	Aug. 13	0060	0160	80	Ex.	060	5 00	8 50	3 00	5 50	24
	†Aug. 20	0076	0370	80	Trace	090	5 70	2 00	5 00	32 00	
	Aug. 26	0080	0245	70	Ex.	050	4 0	9 10	4 00	5 20	25
	Sept. 2	0034	0240	80	Ex.	100	1 00	9 80	4 50	5 30	30
	Sept. 9	0020	0148	65	Small	100	1 0	8 00	4 00	6 00	23
Lock No. 20 City Line Plank Road	July 5	0270	0210	1 60	Very Ex.	030	3 70	12 70	3 70	9 60	
	Sept. 16	0156	0210	1 50	Very Ex.	060	4 00	12 00	4 00	8 00	26
	Sept. 24	0070	0185	1 50	Very Ex.	060	3 60	13 00	4 80	8 20	22
	Sept. 30	0015	0090	1 30	Small.	035	3 70	12 50	5 000	7 50	32
	Oct. 7	0016	0150	45	Small	030	3 70	7 50	4 500	3 00	26
Averages.											
Verona avenue		.00516	01870	420	Ex.	0454	3 32	7 52	3 08	4 45	238
Summit street		0075	02404	75	Ex.	0821	3 85	9 44	4 07	5 51	270
Broad street		00585	01643	691	Ex.	0820	3 57	9 40	3 95	5 52	265
Lock No. 17		00674	01894	748	Ex.	0950	3 90	9 33	3 67	5 66	273
Lock No. 20		01040	01840	1 230	Very Ex.	0430	3 74	11 54	4 10	7 26	265
††Passaic River at Newark intake, 1884		01030	02400	1 040	00014	5800	3 89	11 40			

* The Nitrogen as Nitrites is not expressed in figures but the terms Small, Excessive and Very Excessive mean approximately, under .0005, .001 to .005 and over .005 parts per 100,000, respectively

† This sample not included in table of averages on account of unusual turbidity due to sand

†† Yearly average of analysis by Prof. A. R. Leeds in report to Newark Aqueduct Board for 1884

Brief explanatory remarks were appended to the weekly reports submitted on these samples, but the work may be summarized as follows:

As would be expected from the course of the canal through adjacent territory the water enters the city showing evidence of considerable contamination and becomes somewhat worse when it reaches Summit street, where one series of samples were taken. From here until after N. J. R. R. avenue is passed there is no very marked change in its composition, but by the time it has reached the eastern city line, at the Plank Road bridge, there has been a very considerable addition of material which tends to make the water unpleasant to sight and smell.

When compared with preconceived notions the character of this water proved somewhat of a surprise. The color of the samples as delivered from the city line to Broad street, inclusive, was, with one or two exceptions, not noticeable. The samples from Lock No. 17 at N. J. R. R. avenue usually had a slight tarry odor, while that of most of the samples from Lock No. 20 at Plank Road bridge was distinctly unpleasant. The turbidity in most cases was small and in many instances about the same as our city aqueduct. Noticeable exceptions were after heavy rains and during the time a dredger was at work near Halsey street.

Perhaps the most surprising feature about the water is its color, the average of which is about the same as that of our city supply and in some instances less. The reason of the black and unsightly appearance of the water in the canal is because of the deposit of black mud on the bottom and sides which reflects very little light. If, however, the water be taken up in a glass vessel it will be found to have very little color and often be quite clear.

This water is not and would not be suitable for drinking purposes, but so far as the analytical data go it does not compare unfavorably with many poor water supplies. As an instance of this the yearly average of our city supply at

the Newark intake in 1884, as found by Prof. Leeds, and published in the report of the Newark Aqueduct Board for that year, is added to the table of averages for comparison.

CITY AQUEDUCT WATER.

The monthly analyses of the city water have been continued with satisfactory results, and a comparison of the yearly averages with those of last year shows improvement in almost every determination When the new storage reservoir, now nearing completion, is in use still further improvement may be looked for.,

The tables follow·

ANALYSIS OF NEWARK AQUEDUCT WATER

(PARTS PER 100,000.)

Date 1903	Free Am'onia	Albuminoid Am'onia	Chlorine	Nitrogen as Nitrites	Nitrogen as Nitrates	Temporary Hardness	Total Solids	Loss on Ignition	Fixed Mineral Residue	Color	Temperature Degrees F
Jan. 21	0010	0102	12	Trace	015	1 90	3 50	1 25	2 25	23	36
Feb 20	0010	0095	.10	None	.001	1.90	4.00	1.40	2 60	.25	
March 21	0004	0094	.10	"	.006	1.70	4 00	1.25	2.75	.20	50
April 20	0012	0086	20	"	Trace	1 70	2 90	1 10	2 80	55	50
May 20	0014	0076	18	"	.005	2.60	3 80	1 30	2 50	20	66
June 20	0012	0128	12	"	Trace	1 90	4 00	1 50	2 50	20	64
June 26	0012	0126	12	"	.005	1.90	4 40	1 75	2 65	20	
July 20	0008	0080	15	"	015	2 30	3 60	1 20	2 40	28	70
August 20	0020	.0140	15	"	.015	2 30	4 40	1 50	2 90	.24	70
Sept 21	0008	0144	.12	"	.007	2.30	5.00	2.50	2.50		05
Oct 20	Trace	0102	12	"	008	1 70	4 75	1 20	3 80	40	57
Nov 20.	Trace	0105	15	"	015	2 00	3 90	1 70	2 20	35	46
Dec 21	0008	0087	20	Trace	.010	1 80	3 40	1 50	1 90	31	37
Average.											
1903	00108	0105	141	None	.0090	2.00	3.973	1 523	2 52	247	54 5
1902	.00178	0131	165	"	0089	2 041	4 195	1 852	2 335	258	51 2
1901	00252	0154	.155	"	.0148	2.20	4 653	1 916	2.653	.32	53.5
1900	00242	0137	181	Trace	0142	2 092	4 433	1 991	2 442	286	56
1899	00226	0128	167	"	.0097	1.771	4 42	2 05	2 37	348	
1898	0026	0150	.142	"	0129		4 42	2 05	2 37	348	
1897	0023	0141	133	"	0112		4 12	1 99	2 13	39	

TOTAL SOLIDS (GRAIN PER U. S. GALLON)

	1900.	1901.	1902	1903.
Maximum	3.06	3.00	2.92	2.92
Minimum	1.96	1.93	1.98	1.69
Average for twelve months . ..	2.53	2.68	2.45	2.32

MISCELLANEOUS

The number of examinations under this class has been somewhat greater than heretofore and include a number of cases where citizens have submitted articles of food suspected of containing poison. This kind of work often takes much time and almost invariably yields negative results, so far as poison is concerned.

Two samples of milk and one each of olive oil, cocoa, meat and salt were examined for poison and nothing found except in the salt, which contained 1.92 per cent. of carbonate of lime, a comparatively harmless ingredient, doubtless added to prevent caking of the salt by moisture.

Some cream was found to contain boric acid and some milk said to have a pink color was found to have this appearance caused by the pink color of the glass container.

Some condensed milk examined had a disagreeable odor when the can was opened and contained too little fat. In connection with the report on this milk attention was called to the directions on practically all brands of condensed milk for diluting with 14-16 parts of water for infants' feeding. As good condensed milk only contains about 10 per cent of fat, these directions, if followed, would yield a milk containing less than one per cent of fat instead of the 3%-4% in mother's milk.

Three special samples of water were analyzed and two samples of disinfectants. One of these was a 25 per cent of zinc chloride and the other some kind of rosin distilate. Two samples of formalin were tested as to strength.

A very interesting case specially reported on in some detail, was that of some oysters, said to have come from

Keyport, N J, which contained copper They had an unusual blue green color and were supposedly taken from a bay on the shores of which are several copper refining establishments Several cases of sickness in different families appeared to be due to these oysters, but no opportunity occurred to chemically examine more than one of them In this case one quarter of a grain of copper was found

Very respectfully,

HERBERT B. BALDWIN,
Chemist

WELLS RECORDED

Location of Wells.	Sample No.	Kind and Depth.	For Manufacturing or Lowest Purposes	Privy Vaults and Cesspools within 30 Feet.	50 Feet.	100 Feet.	Result of Analysis.
Third St., near Montclair Ave.	833	Pump, 25 ft	Domestic			1 P. V. & 1 C. P.	Contaminated
Hedden Ter., 107	834	Bucket, 44 ft	"			1 P. V.	Badly contaminated
City St., 95	835	Artesian	Manf'g				Suspicious.
Mulberry St., 480	836	Bucket, 25 ft	Domestic		1 P. V. & 1 C. P.		Contaminated
Mulberry St., 482	837	Pump	"	1 C. P.	1 P. V.		"
Mulberry St., 484	838	Pump	"				"
Delevan Av. & No. 8th St.	839	Artesian, 30	"			1 P. V.	Chemically excellent
Clinton Av., 250	840	Pump, 25	"	1 P. V.			Suspicious
Gray St., 37	841	Artesian	"	2 P. V.			Contaminated.
Gray St., 37	842	Cistern	"				Contains decomposing organic matter, but no sewage matter.
Monroe, 60	842 B	Pump, 22 ft.	"				Very badly contaminated
Shipman & Court Sts.	843	Artesian	"				Suspicious
Third St., near Morris Canal	843 B	Artesian	"				"
Ferry St., 625	844	Pump	"			1 P. V.	Badly contaminated.
Summer Av., 264	845	Bucket	"				Suspicious
S. Orange Av., 435 to 443	846	Bucket	"			1 P. V.	Passable.
Ave. "C", 29	847	Open Well	"	P. V. & 1 C. P.			Badly contaminated
Drift St., 25	848	Pump	"				Suspicious
High St., 227 & 229	849	Artesian, 405 ft	"				"
So. 11th St., 750	850	Bucket, 25 ft	"		1 P. V.		Badly contaminated.
So. 11th St., 746	851	Bucket, 20 ft.	"	1 P. V.			" "
So. 10th St., 687 & 689	852	Pump, 10 ft	"			1 P. V.	Suspicious

Newark Weather in the Year 1903.

Average Temperature Varies Little in Many Years — Up to June the Weather in 1903 Was Warm - Then Followed a Cold Summer and Fall Very Heavy Rainfall.

That the weather is not "as it used to be" is a trite saying. As a scientific fact, however, the careful observer admits this in a limited sense only. No two consecutive years present precisely similar phenomena But when the weather of a long period is surveyed, it is found one year differs but slightly from another, in average conditions.

Thus 1903 averages in temperature of 51 4 degrees. The annual average for the preceding twelve years is 52 7 degrees The average for the period running from 1843 to 1902, from records kept by the late Messrs Whitehead and Ricord, is 51.9 degrees. It will be noticed the variation is but slight.

Weather, therefore, though fickle, is not as changeable as commonly considered The superficial observer tells us of the great snow storms of his boyhood. (Note: Women rarely have recollections of weather in the distant past) "The snow storms then were regularly over one's boot tops!" Such rash statements may be easily explained The snowfalls of to-day usually, in one way or another, mount

over the average boy's coat tops. But his father has grown taller since the days of youth. Furthermore, our carping critic of modern weather possibly spent his early days in Vermont or Canada, where a snowy mantle covers the earth from November to April.

It may with safety be asserted that meteorological phenomena of to-day preserve their interest chiefly because of their uncertainty. The theory of stellar influences, so common a century or two ago, the more modern theory of sun-spots, and even more recent notions of cyclic recurrence all lack sufficient confirmatory data. Last year should have been, according to all "saws" of the weatherwise, hot and dry. It actually was a year of abnormally low temperature and excessive rainfall. Hence the weather continues to remain an interesting topic in conversation.

As to forecasting, meteorology has made in this section little or no progress. One thing is certain, that the official forecasts for this region have hardly reached the average percentage in verification. Perhaps another fact may be mentioned, and that, too, without any intention upon our part to disparage the official work of the Weather Bureau—the long range forecasts from Washington have proven much less inaccurate for Northern Jersey than the commonly advertised forecasts in the press, which emanate from the office of the local forecaster in New York. These latter may prove more accurate for the New York and New England section. Our local observer prefers the former—after a careful comparison of both sets of predictions for the previous twelve years. The story of the weather is best told in tabular form. Below are submitted results of local observations covering a period of nearly three quarters of a century. These are records taken from standardized instruments, properly exposed.

Table of temperatures for the years 1843 to 1892, for the City of Newark:

	Average	Highest	Lowest
January	29	65	Minus 13
February	30	68	Minus 8
March	38	77	2
April	49	85	17
May	59	96	31
June	69	97	38
July	74	100	46
August	72	99	47
September	65	101	34
October	53	83	22
November	43	73	8
December	33	68	Minus 7

The mean for the period is 52 degrees, the maximum, 101, the minimum, minus 13.

For the period of 1892 to 1903:

	Average Temperature	Maximum	Minimum	Days of Temperature above 90 degs.	Days of Temperature below 32 degrees
January	30	58	—2	0	24
February	29	67	—9	0	23
March	39	73	5	0	15
April	49	93	24	0	3
May	61	97	34	1	0
June	70	99	46	3	0
July	75	103	49	7	0
August	73	97	50	4	0
September	66	98	39	2	0
October	55	89	29	0	1
November	44	74	15	0	8
December	33	62	2	0	27

The average annual temperature for the period of twelve years is 52.7 degrees. The maximum is 103, and the minimum is minus 9.

For 1903 the record is

	Month's Average	Highest	Lowest	Times Mercury dropped below 32 degrees	Times Mercury rose above 90 degrees
January	29	53	8	25	0
February	32	67	1	20	0
March	47	73	25	5	0
April	51	89	26	3	0
May	63	93	34	0	3
June	63	86	46	0	0
July	74	95	51	0	6
August	68	90	50	0	0
September	65	89	39	0	0
October	56	77	31	1	0
November	40	73	15	16	0
December	29	52	5	29	0

The year's average temperature is 51.4 degrees

The highest is 95 degrees and the lowest minus 1 degree. The year 1903, therefore, falls more than a degree short of the average. It may be seen that up to June the weather was unusually warm; also, that the warm spring was followed by an unusually cold summer, and, thirdly, that November and December have averaged 4 degrees below normal. The excessive cold of this season is revealed by the fact that during last winter the first skating on the lake at Branch Brook Park occurred on January 9, and there were fourteen days of skating allowed during the entire season, whereas this season skaters have already enjoyed nine days of sport upon the aforenamed ice sheet, which, by the way, is about the latest small sheet of water to freeze to be found in the State.

It will also be found that no extreme temperatures were recorded at any time throughout the year. Whereas in the twelve-year period that precedes, no fewer than six records were established for high temperatures

When precipitation is considered, the year just closing presents still more remarkable features. Its total rainfall (including melted snow) is fifty seven inches, which is fully eleven inches in excess of the normal

HEAVY FALL OF RAIN

Precipitation, in inches, average, per month:

	Period 1843 1892	Period 1892–1893	Total 1903
January	3.65	3 66	4 26
February	3.60	4.27	4 39
March	3 81	4 12	4 08
April	3 53	3 49	3 33
May	3 97	3 93	0 42
June	3 57	4.72	11 51
July	4 28	5 76	4 27
August	5 07	5 74	14.54
September	3.75	3 27	4.56
October	3 58	4.65	13 26
November	3 63	3.55	0 92
December	3 63	3 80	3 52
Average monthly fall	3 84	4.24	4 74

These figures should be taken in connection with the fact that the year had no larger number of rainy days than usual. There were 128 in all, in which rain fell in measurable quantity, which signifies that about one day in three may be expected to be rainy. October appears a curiosity. It had but seven rainy days, but its record is 13 26 inches. This is the month of the great flood. Twelve inches of this total came in one storm.

	Rainy Days.	Clear Days.	Fair Days.	Cloudy Days
January	11	11	14	6
February	8	9	12	7
March	13	12	8	11
April	11	11	11	8
May	8	15	12	4
June	18	7	7	16
July	17	14	11	6
August	17	4	5	22
September	5	15	10	5
October	7	10	10	11
November	5	19	6	5
December	8	14	9	8
	128	141	115	109
Avg. of previous 12 years	126	131	127	107

August remains the year's wettest month, as it has been since water was first measured in a local gauge; and April may still be regarded as the month of least rainfall, although, owing to the drought last year, it temporarily yielded last position to May.

Winds of great violence have not been as numerous as before. Twenty-six times a velocity of forty miles an hour or more has been noted. April this year was a month of boisterous breezes; seven times winds blew forty miles an hour, thrice, fifty miles, and three times, sixty miles and over. In May, June and July there were no high winds; and only once since April has a speed of sixty miles been attained. This occurred on the 16th of September, when the city was visited by a hurricane of extensive proportions. There was a three inch downpour in three hours, but the wind storm continued three days. The storm was more severe than that of the 4th of April, when after a rainfall of only half an inch, the anemometer showed a sudden jump in speed to sixty-five miles. The mercury fell swiftly from 67 degrees to 28 degrees. The destructive force of these

blows was considerable Our shade trees still bear the marks of the visitations.

THE WEATHER ON HOLIDAYS

New Year's Day was clear and cold, with some coasting on side streets, but with no skating. Lincoln's Birthday was as mild as a spring day—clear, without snow or ice Washington's Birthday was perfectly clear and cool. For some reason skating was not allowed on the Branch Brook pond, although thousands glided over the ice on the 21st and again on the 23d.

Memorial Day was disagreeable, the sky being overcast all day and the streets wet with occasional downpours Easter Sunday, too, was rainy. The sun came out after 4 o'clock P M , permitting us to enjoy a brief period of ideal Easter weather The glorious Fourth was cool, cloudy and damp Labor Day was a duplicate of the Fourth of July. Thanksgiving Day was clear and cold. The enterprising urchin soon discovered ice in the meadows and on suburban ponds, and skates from this date have scarcely had a chance to dry.

Christmas Day was cloudy, rainy, and for a winter's day quite mild. In fact it was one of two days in six weeks on which the mercury failed to fall below the freezing point. The year ended as it began, with the ground enveloped in a mantle of snow, and with winter sports of every description in lively evidence.

GEORGE C. SONN.

AREA OF CITY AND EXTENT OF PUBLIC IMPROVEMENTS

Census Population, 1890	181 830
Estimated Population, 1903	200 000
Total area of the City's square miles	22
Built up square miles	15
Meadow land, square miles	6
Length of River and Bay front, miles	10 5-10
Number of miles of granite block	47 37
" " " trap block	12.29
" " " telford pavement	16.60
" " " cobble stone pavement	10.44
" " " asphalt pavement	51 10
" " " brick pavement	10.58
Total length of paved streets, miles	149.31
Number of miles of unpaved streets	1 20
Length of Electric Railways, miles	73.51
Length of Steam Railways, miles	28.38
Length of brick sewers, miles	67 15
Length of pipe sewers, miles	108 55
Length of private sewers, miles	25 52
Total length of sewers, miles	201.22
Total number of sewer basins	2,971
Length of water mains, miles	279 00
Average daily consumption of water, gallons	26,610,961
Capacity of water supplied per day, gallons	50,000,000
Number of buildings	32,732

PUBLIC PARKS

Military, acres	6.45
Washington, acres	3.40
Lincoln, acres	4.37

NEW PARKS

Branch Brook, acres	277 5
East Side, acres	12 5
West Side, acres	23
Weequatis Reservation, acres	265 08

In concluding my report for the year 1903, I desire to express my sincere thanks to the individual members of the Board for their co-operation, also to the employees in general in assisting me in the performance of my duty.

Very respectfully,

DAVID D. CHANDLER,
Health Officer.